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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/512,087	04/07/2005	Kiyoaki Takiguchi	261189US6PCT	9110
22850 7590 04/21/2010 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER PARK, EDWARD				
ART UNIT		PAPER NUMBER		
2624				
NOTIFICATION DATE		DELIVERY MODE		
04/21/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/512,087

**Applicant(s)**

TAKIGUCHI, KIYOAKI

**Examiner**

EDWARD PARK

**Art Unit**

2624

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 59-62, 64-68 and 70-73 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 59-62, 64-68 and 70-73 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB06)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/16/10 has been entered.

### ***Response to Arguments***

2. Applicant's arguments filed on 3/16/10, in regards to claims 59, 65, 71, have been fully considered but they are not persuasive. Applicant argues that the prior art does not teach a shield ... an aperture of an imaging optical system of the detecting unit (see pg. 6, third paragraph – pg. 7, second paragraph). This argument is not considered persuasive since Marchitto teaches the limitation within fig. 4, col. 5, lines 45–col. 6, lines 1–9, fig. 9, where reflected radiant energy can be captured by a detector, which is positioned behind an aperture. Examiner notes that it can be clearly seen within figures 4, 9 that show that there is a restrictive border around the aperture in the form of a shield that restricts the detector to a certain field of view. Furthermore, examiner notes that the amended limitation is known readily by one skilled in the art and also shown extensively within image analysis and the camera sector.

Regarding claims 60-62, 64, 66-68, 70, 72, 73, applicant argues that the claims are allowable due to the same reasons as the respective independent claims (see pg. 7, third paragraph). This argument is not considered persuasive since all the independent claims are rejected and the arguments and rejections can be seen within this action.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 59-62, 64-68, 70-73** are rejected under 35 U.S.C. 103(a) as being unpatentable over Miura et al (US 2002/0028004 A1) in view of Marchitto et al (US 6,889,075 B2).

Regarding **claim 59, 60**, Miura teaches a biometric pattern detecting device comprising: a light source unit configured to emit a light to be reflected or scattered in a part of body (Miura: figure 5, numeral 2); and a detecting unit configured to detect an image of the light reflected or scattered in the part of body by the light source unit (Miura: figure 5, numeral 4) and generate a biometric pattern using the detected image (Miura: figure 9), wherein the light source unit is set in a horizontal direction or a horizontally slanted direction with respect to the part of body (Miura: figure 5, numeral 2) and the detecting unit is set in a vertical direction or a vertical slanted direction with respect to

the part of body (Miura: figure 5, numeral 4). Miura does not disclose a near infra-red light; a shield which prevents light scattered in a shallow portion of the body from reaching the detecting unit by limiting an aperture of an imaging optical system of the detecting unit; and light source unit and the detecting unit are non-coaxial with one another; and detecting unit detects the image of the near infra-red light reflected or scattered in the body on the different position from the position of the light emitted by the light source unit.

Marchitto, in the same field of endeavor, teaches a near infra-red light (see fig. 5, col. 6, lines 10-61; imaging information (FIG. 5) using a pulsed laser producing near infrared radiant energy); a shield which prevents light scattered in a shallow portion of the body from reaching the detecting unit by limiting an aperture of an imaging optical system of the detecting unit (see fig. 4, col. 5, lines 45-col. 6, lines 1-9, fig. 9; reflected radiant energy can be captured by a detector, which is positioned behind an aperture); and light source unit and the detecting unit are non-coaxial with one another (see fig. 5, col. 6, lines 10-61); detecting unit detects the image of the near infra-red light reflected or scattered in the body on the different position from the position of the light emitted by the light source unit (see fig. 5, col. 6, lines 10-61).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Miura to utilize near infra-red, shield and a non-coaxial arrangement as suggested by Marchitto, to enhance optical imaging of an anatomical structure and enhancing vascular contrast for specific tissues of interest such as blood vessels, while providing non-invasive and relatively low cost imaging (see col. 3, lines 4-25, col. 1, lines 48-59).

Regarding **claim 61**, Miura teaches wherein the part of body is a finger or a hand (Miura: figure 5, numeral 20).

Regarding **claim 62**, Miura teaches wherein the biometric pattern is a pattern of blood vessels (Miura: paragraph [0033]).

Regarding **claim 64**, Miura teaches a guide unit set between the detecting unit and the part of body (Miura: figure 5, numeral 1).

Regarding **claim 65, 66**, Miura teaches a personal authentication device comprising:  
a light source unit configured to emit a light to be reflected or scattered in a part of body (Miura: figure 5, numeral 2);  
a detecting unit configured to detect an image of the light reflected or scattered in the part of body by the light source unit (Miura: figure 5, numeral 4) and for generating a biometric pattern using the detected image (Miura: figure 9);  
a storage unit configured to store a biometric pattern (Miura: paragraph [0008]); and  
an authentication unit configured to perform an authentication process by comparing the biometric pattern generated by the detecting unit with the biometric pattern stored by the storage unit (Miura: figure 9), wherein the light source unit is set in a horizontal direction or a horizontally slanted direction with respect to the part of body (Miura: figure 5, numeral 2) and the detecting unit is set in a vertical direction or a vertical slanted direction with respect to the part of body (Miura: figure 5, numeral 4). Miura does not disclose a near infra-red light; a shield which prevents light scattered in a shallow portion of the body from reaching the detecting unit by limiting an aperture of an imaging optical system of the detecting unit; and light source unit and the detecting unit are non-coaxial with one another; and detecting unit detects the image of the near infra-red light reflected or scattered in the body on the different position from the position of the light emitted by the light source unit.

Marchitto, in the same field of endeavor, teaches a near infra-red light (see fig. 5, col. 6, lines 10-61; imaging information (FIG. 5) using a pulsed laser producing near infrared radiant energy); a shield which prevents light scattered in a shallow portion of the body from reaching the detecting unit by limiting an aperture of an imaging optical system of the detecting unit (see fig. 4, col. 5, lines 45-col. 6, lines 1-9, fig. 9; reflected radiant energy can be captured by a detector, which is positioned behind an aperture); and light source unit and the detecting unit are non-coaxial with one another (see fig. 5, col. 6, lines 10-61); detecting unit detects the image of the near infra-red light reflected or scattered in the body on the different position from the position of the light emitted by the light source unit (see fig. 5, col. 6, lines 10-61).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Miura to utilize near infra-red, shield and a non-coaxial arrangement as suggested by Marchitto, to enhance optical imaging of an anatomical structure and enhancing vascular contrast for specific tissues of interest such as blood vessels, while providing non-invasive and relatively low cost imaging (see col. 3, lines 4-25, col. 1, lines 48-59).

Regarding **claim 67**, Miura teaches wherein the part of body is a finger or a hand (Miura: figure 5, numeral 20).

Regarding **claim 68**, Miura teaches wherein the biometric pattern is a pattern of blood vessels (Miura: paragraph [0033]).

Regarding **claim 70**, Miura teaches a guide unit set between the detecting unit and the part of body (Miura: figure 5, numeral 1).

Regarding **claim 71**, Miura teaches a method of performing personal authentication, comprising:

emitting from a light source a light to be reflected or scattered in a part of body (Miura: figure 5, numeral 2);

detecting with a detector an image of the light reflected or scattered in the part of body (Miura: figure 5, numeral 4);

generating a biometric pattern using the detected image (Miura: figure 9);

performing an authentication process by comparing the generated biometric pattern with a stored biometric pattern (Miura: figure 9),

wherein the emitted light is emitted from a horizontal direction or a horizontally slanted direction with respect to the part of body (Miura: figure 5, numeral 2) and the image of the light reflected is detected in a vertical direction or a vertical slanted direction with respect to the part of body (Miura: figure 5, numeral 4). Miura does not disclose a near infra-red light; preventing using a shield light scattered in a shallow portion of the body from reaching the detecting unit by limiting an aperture of an imaging optical system of the detector; and emitted light and the detected light are non-coaxial with one another.

Marchitto, in the same field of endeavor, teaches a near infra-red light (see fig. 5, col. 6, lines 10-61; imaging information (FIG. 5) using a pulsed laser producing near infrared radiant energy); preventing using a shield light scattered in a shallow portion of the body from reaching the detecting unit by limiting an aperture of an imaging optical system of the detector (see fig. 4, col. 5, lines 45-col. 6, lines 1-9, fig. 9; reflected radiant energy can be captured by a detector, which is positioned behind an aperture); and emitted light and the detected light are non-coaxial with one another (see fig. 5, col. 6, lines 10-61).



It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Miura to utilize near infra-red, shield and a non-coaxial arrangement as suggested by Marchitto, to enhance optical imaging of an anatomical structure and enhancing vascular contrast for specific tissues of interest such as blood vessels, while providing non-invasive and relatively low cost imaging (see col. 3, lines 4-25, col. 1, lines 48-59).

Regarding **claim 72**, Miura teaches wherein the part of body is a finger or a hand (Miura: figure 5, numeral 20).

Regarding **claim 73**, Miura teaches wherein the biometric pattern is a pattern of blood vessels (Miura: paragraph [0033]).

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDWARD PARK whose telephone number is (571)270-1576. The examiner can normally be reached on M-F 10:30 - 20:00, (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on (571) 272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Edward Park  
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